



# *VTune™ Performance Analyzer 7.2*

## *Release Notes*

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### **Important Notes**

- Previous versions of the VTune™ Performance Analyzer **MUST BE UNINSTALLED** prior to installing this version. Note: See the Installation section below for more information.
- NOTE that the Microsoft file INTDIA80.DLL is beta code and should not be treated as production code. See the Usage Notes section Microsoft\* .NET Technology Support below for more information.
- Please, go to the Intel® Software Development Products website to get the latest version of the release notes for this product.
- Please avoid using the FIND utility with this version of the release notes.

## Overview

The VTune™ Performance Analyzer provides an integrated performance analysis and tuning environment that enables you to analyze your code's performance on Intel® architecture processors of the IA-32 and Itanium® processor families, as well as the Intel® PXA25x/26x/27x processors with Intel XScale® technology and Intel® processors including Intel® Extended Memory 64 Technology (Intel® EM64T).

To receive technical support and product updates, you need to register your purchase with Intel. The registration process is described in the [Technical Support and Feedback](#) section of these Release Notes.

Additional information on Intel's software performance products is available at <http://www.intel.com/software/products/>.

## What's New?

These are some of the key enhancements and new features introduced in this version:

- Support for Intel® processors including Intel® Extended Memory 64 Technology (Intel® EM64T).
- Support for remote Java profiling on Itanium®-based Linux systems.
- Support for Microsoft\* .NET profiling on Itanium®-based Windows systems.
- Enhanced support for the Intel® Pentium® M processors.
- Remote data collection support on Red Hat Enterprise Linux 3.0 IA-32 systems with hugemem kernels.
- Support for viewing and analyzing samples collected from up to 128 processors on a Linux system using the Intel® VTune™ Performance Analyzer 3.0 for Linux\*.

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## System Requirements

The VTune™ Performance Analyzer 7.2 is intended to execute on systems that meet the requirements outlined in this section. [Supported Development Environments](#) are also detailed in an additional subsection below.

**NOTE:** The VTune analyzer supports two usage models, *local* and *remote*. The local model requires a single system, which is both the system under analysis and the system

performing the analysis. In the remote model, a *data collector* is installed on a second system (the Remote Agent system to analyze), then the output of the data collection is sent to the controlling system where VTune analyzer is installed, where it can be viewed.

The following requirements apply to the single system for the *local* usage model and the *controlling* system for the *remote* usage model. Remote Agent system requirements for the *remote* usage model are detailed [below](#).

## Minimum Hardware Requirements

The hardware requirements below are for the single system for *local* analysis and also for the *controlling* system when using an optional second system for *remote* analysis. In both cases, this system is the system upon which the VTune analyzer should be initially installed.

### Minimum Processors supported:

- Intel® Pentium® III processor (or later)
- Intel® Itanium® processor (B3 or greater)

### Processors supported:

- |   |                                       |
|---|---------------------------------------|
| • Intel® Celeron® processor                   | • Intel® Pentium® III processor       |
| • Intel® Celeron® D processor                 | • Intel® Pentium® III processor - S   |
| • Intel® Itanium® processor                   | • Intel® Pentium® III Xeon™ processor |
| • Intel® Itanium® 2 processor                 | • Intel® Pentium® 4 processor         |
| • Low Voltage Intel® Itanium® 2 Processor     | • Intel® Xeon™ processor              |
| • Intel® Pentium® 4 Processor Extreme Edition | • Intel® Xeon™ processor MP           |

Intel® processors including Intel® Extended Memory 64 Technology (Intel® EM64T) are supported.

### Mobile Processors supported:

- Mobile Intel® Pentium® III Processor - M
- Mobile Intel® Pentium® 4 Processor - M
- Intel® Pentium® M processor

- Intel® Celeron® M processor
- Mobile Intel® Celeron processor

## System Memory requirements:

At least 128 Megabytes of RAM

## Disk Space requirements:

- At least 92 Megabytes of available space on a local drive
- 20 Megabytes of disk space is required for system files on the drive containing the system directory (for example **C:\**)

**NOTE:** This additional hard disk space is needed for updating and installing the DLLs and OCXs that the VTune analyzer requires to be in the system directory. Even if you install the VTune analyzer on a hard disk *other than the drive containing the system directory*, make sure that you have at least 20 Megabytes free *on the drive containing the system directory*.

## System Memory and Disk Space requirements on *remote Linux\** machine:

- At least 32 Megabytes of RAM
- At least 20 Megabytes of available space on a local drive

## Minimum Software Requirements

The software requirements below are for the single system for *local* analysis and also for the *controlling* system when using an optional second system for *remote* analysis. In both cases, this system is the system on which the VTune™ Performance Analyzer should be initially installed.

## Free (non-checked) versions of these operating systems:

**NOTE:** In all cases below, use the Microsoft\* Windows\* recommended virtual memory paging file size to prevent unexpected failures of the VTune analyzer.

32-bit Windows operating systems supporting IA-32 processors:

- Microsoft\* Windows XP Professional Edition
- Microsoft\* Windows Server 2003 family

64-bit Windows operating systems supporting Intel® Itanium® architecture processors:

- Microsoft\* Windows XP 64-Bit Edition Version 2003
- Microsoft\* Windows Server 2003 family

64-bit Windows operating systems supporting Intel® processors with EM64T:

- Microsoft\* Windows XP Professional x64 Edition (tested with Beta build 1218)
- Microsoft\* Windows Server 2003 family (tested with Beta build 1218)

### **Command-line support:**

An extensive subset of the VTune analyzer capabilities is available from the command line. The (OS) software requirements for the command-line interface are similar to the *local* usage model.

## **Remote Agent System Requirements for the remote usage model**

This subsection describes the requirements for an *optional* second system capable of performing remote sampling and/or remote call graph profiling.

### **Hardware requirements for an optional second (Remote Agent) system for remote analysis:**

A system that meets the same hardware requirements as any supported *controlling* system. See the [Minimum Hardware Requirements](#) section above.

See the *VTune™ Performance Analyzer Update for Intel XScale® Technology Release Notes* for additional hardware requirements for data collection on the Intel® DBPXA25x/26x Development Platform for Intel® PCA and the Intel® PXA25x/26x processor with Intel XScale® technology, or the Intel® DBPXA27x Development platform with Intel® the PXA27x Processor B0 or newer silicon.

### **Software requirements for an optional second (Remote Agent) system for remote analysis:**

See the *VTune™ Performance Analyzer Update for Intel XScale® Technology Release Notes* for all software requirements for data collection on the Intel® DBPXA25x/26x Development Platform for Intel® PCA and the Intel® PXA25x/26x processor with Intel XScale® technology, or the Intel® DBPXA27x Development platform with Intel® the PXA27x Processor B0 or newer silicon.

In addition to any of the operating systems required for the *controlling* system, several versions of the Linux\* operating system are supported for remote analysis.

### Remote call graph on Linux\*:

For *remote call graph* profiling on Linux\* systems with supported 32-bit processors, this version of the VTune analyzer supports:

- Red Hat\* 7.3
- Red Hat\* 9 (+ patches ... see below)
- Red Hat \* Advanced Server 2.1 (AS2.1)
- Red Hat\* Enterprise Linux\* 3.0
- SuSE\* 8.2
- SuSE\* 9.0
- SuSE\* Linux\* Enterprise Server 8 (SLES 8)

The above operating systems require either GLIBC version 2.2.2, 2.2.4, 2.2.5 or 2.3.2.

To use call graph on Red Hat\* 9, the following patches need to be installed (note: later versions of these patches may also be used). These patches can be downloaded from <https://rhn.redhat.com/>.

- One of the following errata kernels:
  - kernel-2.4.20-20.9.\*.rpm
  - kernel-smp-2.4.20-20.9.\*.rpm

If you are going to use sampling you also need to download and install kernel sources package kernel-source-2.4.20-20.9.\*.rpm

- GLIBC and associated packages:
  - glibc-2.3.2-27.9.\*.rpm
  - nptl-devel-2.3.2-27.9.\*.rpm
  - glibc-common-2.3.2-27.9.\*.rpm
  - glibc-debug-2.3.2-27.9.\*.rpm
  - glibc-utils-2.3.2-27.9.\*.rpm

The applications to be profiled must be built with the following compilers:

- GCC\* 2.96
- GCC\* 3.2
- Intel® C++ Compiler 7.0, Intel® Fortran Compiler 7.0
- Intel® C++ Compiler 7.1, Intel® Fortran Compiler 7.1

- Intel® C++ Compiler 8.0, Intel® Fortran Compiler 8.0

On Linux\* systems with supported *Intel® Itanium® architecture*, this version only supports Red Hat\* Advanced Server 2.1, Enterprise Linux\* 3.0 and SuSE\* Linux\* Enterprise Server 8.

## Remote sampling on Linux\*:

- Kernel versions supported for *remote sampling* on Linux\* systems with supported IA-32 processors . . . the following list of supported Linux\* kernels is for both uniprocessor systems (UP) and multiprocessor systems (SMP), unless otherwise noted:
  - 2.4.9-e.3 (Red Hat\* Advanced Server 2.1)
  - 2.4.18-3 (Red Hat\* 7.3)
  - 2.4.18-14 (Red Hat\* 8)
  - 2.4.20-8 (Red Hat\* 9)
  - 2.4.21-4.EL (Red Hat\* Enterprise Linux\* 3.0)
  - 2.4.22-\*.nptl (Red Hat\* Fedora\* Core 1) (see note in Known Limitations section under [Linux\\* Remote Sampling](#))
  - 2.4.19-{4GB, 64GB-SMP} (SuSE\* Linux\* Enterprise Server 8)
  - 2.4.20-{4GB, 64GB-SMP} (SuSE\* 8.2)
  - 2.4.21-99-\* (SuSE\* 9)
- Kernel versions supported for *remote sampling* on Linux\* systems with Intel® Itanium® processors or Intel® Itanium® 2 processors:
  - 2.4.18-e.12 (Red Hat\* Advanced Server 2.1)
  - 2.4.21-4.EL (Red Hat\* Enterprise Linux\* 3.0)
  - 2.4.19-{SMP} (SuSE\* Linux\* Enterprise Server 8)
- Kernel versions supported for *remote sampling* on Linux\* systems using Intel® processors with Intel® EM64T:
  - 2.4.21-15.EL (Red Hat\* Enterprise Linux\* 3.0)

## Drivers required for remote sampling data collection:

To build the driver required for conducting remote sampling data collection for Linux\* kernel versions not explicitly supported (above), use the *VTune™ Performance Analyzer Driver Kit* included in this release.

- If you are using the *VTune™ Performance Analyzer Driver Kit* to build a driver for your specific Linux\* kernel, GCC version 2.96 or higher is required.
- Updates to the *VTune™ Performance Analyzer Driver Kit* can be obtained at <http://www.intel.com/software/products/opensource/vdk/>.

## Additional software requirements for remote analysis of systems running Linux\*:

- To install the Linux\* Remote Data Collectors, RPM version 4.0.2 or higher is required.
- To perform sampling with the Linux\* Remote Data Collector, GLIBC\* version 2.2.2 or higher is required.

## Compilers and Development Environments Supported

The VTune analyzer supports applications generated with the following compilers and development environments when correct debug symbols are available (refer to the VTune analyzer online help for detailed instructions):

### Itanium® processor family development environments supported:

Compiler Environment	Source View	Call Graph	
Intel® C++ Compiler	YES	YES	YES
Intel® C++ Compiler for Linux*	YES	YES	NO
Intel® Fortran Compiler	YES	YES	YES



Compiler Environment	Source View	Call Graph	
Intel® Fortran Compiler for Linux*	YES	YES	NO
Microsoft* .NET Framework* 1.0 / 1.1/ 2.0 Beta 1	YES	YES	NO
Microsoft* Platform SDK October 2003	YES	YES	YES
BEA* WebLogic JRockit* 8.1 SP1/SP2, 1.4.2 (Windows*) and JRockit 1.4.2 (Linux*)	YES	YES	NO
IBM* JDK* 1.3.1 (Windows* and Linux*)	YES	YES	NO
Sun* JDK* 1.4.1 / 1.4.2 (Linux* only)	YES	YES	NO

The VTune analyzer has been tested with the Microsoft\* Platform SDK, October 2003.

**NOTE:** The Source Level Tuning Assistant is disabled as a default. To enable source-based tuning advice: select **Configure > Options** from the main menu, then select **Intel® Tuning Assistant > Source Information** from the Options tree. Uncheck the option **Disable source-based tuning advice**.

**IA-32 development environments supported:**

Compiler Environment	Source View	Call Graph	
Microsoft* Visual C++* 5.0 / 6.0 / .NET	YES	YES	YES
Microsoft* .NET Framework* 1.0 / 1.1/ 2.0 Beta 1	YES	YES	NO
Microsoft* Visual C#*	YES	YES	NO
Microsoft* Visual J#*	YES	YES	NO
Intel® C++ Compiler	YES	YES	NO
Intel® C++ Compiler for Linux*	YES	YES	NO
GNU* Project C/C++ Compiler for Linux*	YES	YES	NO
Microsoft* Visual Basic* 5.0 / 6.0 / .NET	YES	YES	NO
Borland* C++ Builder* 5.0	YES	YES	YES
Borland* C++ Builder* 6.0	YES	NO	NO
Delphi* 5.0 / 6.0	YES	YES	NO

Compiler Environment	Source View	Call Graph	
IBM* JDK* 1.3.1 (both Windows* and Linux*), 1.4.0 / 1.4.1 (Linux* only)	YES	YES	NO
Sun* JDK* 1.4.1 / 1.4.2 (both Windows* and Linux*)	YES	YES	NO
BEA* WebLogic JRockit* 8.1 SP1/SP2 and 1.4.2 (both Linux* and Windows*)	YES	YES	NO
Microsoft* Jview*	YES	YES	NO
Intel® Fortran Compiler	YES	YES	YES
Intel® Fortran Compiler for Linux*	YES	YES	NO

**NOTE:** The Source Level Tuning Assistant is disabled as a default. To enable source-based tuning advice, select **Configure > Options**, then select **Intel® Tuning Assistant > Source Information** from the Options tree and uncheck the option **Disable source-based tuning advice**.

**IA-32 processor with Intel® EM64T development environments supported:**

Compiler Environment	Source View	Call Graph	
Intel® C++ Compiler	YES	YES	YES
Intel® C++ Compiler for Linux*	YES	NO	NO
Microsoft* .NET Framework* 1.0 / 1.1/ 2.0 Beta 1	YES	YES	NO
Microsoft* Platform SDK October 2003	YES	YES	YES
Sun* JDK* 1.4.2 (Linux only), 1.5.0 Beta 2 (both Windows* and Linux)	YES	YES (WINDOWS )	NO

The VTune analyzer has been tested with the Microsoft\* Platform SDK October 2003.

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## Installation

### Important Notes

All previous versions of the VTune™ Performance Analyzer **MUST BE UNINSTALLED** prior to installing the VTune™ Performance Analyzer 7.2. This includes

technology based-systems for remote data collection from any previous release of the VTune™ Performance Analyzer. See the Uninstalling VTune analyzer section below for details.

The file **VTuneAnalyzer7.2\_EULA.rtf** contains the text for the VTune analyzer license agreement. During installation, you must accept the conditions of this license agreement.

## General Installation Notes

- When installing the VTune analyzer with a counted license, if the VTune analyzer is already running as many systems as is permitted by the counted license, the install will display an error message that the license is invalid. To work around this issue, close the VTune analyzer on one of the systems to free up a license and try installing again. [SCR #17508]
- If you are running the evaluation version of VTune™ Performance Analyzer on a multi-user system and it unexpectedly reports that the evaluation period for the machine has expired, it is probably because another user has already used the allocated evaluation period. Contact Customer Support at <https://premier.intel.com> for assistance in running the evaluation version under these circumstances.
- To preserve global setting changes from previously installed versions of the VTune analyzer, copy the file **vtenv.stg** (located in the ...shared\bin\<username> directory in some older versions of the VTune analyzer) to %APPDATA%\VTune.
- The VTune analyzer cannot be installed to a network drive.
- The VTune analyzer cannot be installed into the %WINDIR%\System32 or %WINDIR%\SysWOW64 system folders on systems using Itanium® processors. [SCR #11705]

## Installing VTune Analyzer 7.2 on Windows\* Family

### To install VTune analyzer 7.2 from the CD-ROM:

1. Insert the CD-ROM into your drive.
2. When the Autorun page appears (a web page displays in your default browser), select VTune analyzer in the **Installation** section on the left. On the page that opens click the **Install Now** button. If you do not see the Autorun page, open **My Computer**, double-click

on the CD-ROM drive, and double-click on **Autorun.exe** to view the Autorun page.

## To install VTune analyzer 7.2 from the Internet:

1. Download the appropriate self-extracting executable file to your Windows\* system.
2. Obtain or otherwise assure that a license (\*.lic) file, which is currently valid for the VTune analyzer 7.2, is present on your Windows\* system. During the installation process you may be prompted for the location of a newly obtained license file.

**NOTE:** If you have previously purchased a license for the VTune analyzer 7.1 and your subscription is current, it should not be necessary to obtain a new license file to upgrade to version 7.2 of the VTune analyzer.

3. Run the self-extracting executable install package (from step 1 above) and follow the instructions presented by the InstallShield\* Wizard.
4. When the Autorun **Index.htm** page appears, select VTune analyzer in the **Installation** section on the left. On the page that opens click the **Install Now** button.

## Notes on Windows-family installations:

- Running the VTune analyzer from an account belonging to the Administrator's group enables the VTune analyzer to correctly track modules in system processes.
- If you install the VTune analyzer on a Microsoft\* Windows\* Server 2003 system using the Terminal Server Client to connect the system and do not reboot the system upon the installation program's request, make sure to log off and log on again to the system. Otherwise, you might experience the problem with the VTune analyzer license file.
- To collect call graph data, you must have **Full Control** access to the VTune analyzer installation directory.
- To collect sampling data, you must have the **Profile system performance** and **Profile single process** rights assigned to your user account by the administrator. Otherwise, the VTune analyzer will not collect samples. Note that domain settings override local system settings.
- To collect sampling data on Microsoft\* Windows\* Server 2003, you must also have the **Create Global Objects** right assigned to your user account by the administrator.

- To assign rights the administrator must do the following:
  - a. Start the **Control Panel**.
  - b. Select **Performance and Maintenance**.
  - c. Select **Administrative Tools**.
  - d. Start the **Local Security Policy** utility.
  - e. Under **Local Policies**, select **User Rights Assignments**.
  - f. On the right side of the screen, double-click the needed right.
  - g. Add the users that are supposed to have rights to use the VTune analyzer.
  - h. Repeat steps e-f for the other necessary rights.

## Uninstalling VTune analyzer

1. Open the Control Panel (**Start > Control Panel**).
2. Select the **Add or Remove Programs** applet.
3. Select **Intel® VTune™ Performance Analyzer** then select the **Remove** button.
4. Click **Yes** when prompted. Only the files installed by the VTune analyzer are deleted. Files that were created after installation, such as the database files (\*.ldb and \*.mdb), sampling output files, and call graph instrumentation files, are not deleted.

### Uninstall Notes:

During the installation process, certain VTune analyzer files (DLLs, EXEs, and OCXs) are registered. Registration causes various entries to be added to the Windows\* Registry. During uninstall, those files, which will no longer be used, are unregistered. Nevertheless, it is possible that after uninstall, some unnecessary registry entries may remain. While these leftover Registry entries are not harmful to the system, the only way to remove them after uninstall is to do so manually. Be advised however that Microsoft\* warns that incorrect use of the Registry Editor can cause serious problems and to use it at your own risk. See the Microsoft\* Knowledge Base article [256986](#) for more information.

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## Usage Notes

### General

- To launch the VTune analyzer, you need to have at least Power User privileges.
- To run sampling, you do not need to be a specific type of user but you need to add to your user group the required policies, Profile Single Process and Profile System Performance.
- When sampling locally or remotely, the *project* directory should be a local drive. The VTune analyzer may not be able to record samples on a network or a mapped drive. [SCR #17179]
- To use an alternate symbol path for DBG files define the environment variable: `_NT_SYMBOL_PATH` . For instance, if your files are under **D:\support\debug\i386\symbols\dll\*.dbg**, you should set: `_NT_SYMBOL_PATH` to **D:\support\debug\i386**. You can also specify additional symbol directories using **Tools > Options > Directories** property page.
- The VTune analyzer online help provides descriptions of processor events and instructions. To access event descriptions, do the following:
  - a. Click the **Start** button and select **Programs (All Programs)** in Windows\* XP).
  - b. Select **Intel® VTune™ Performance Analyzer > Instruction Reference**.
- For export to Excel functionality to work, Microsoft\* Excel must be installed.
- To use Sampling Over Time views, you must have the **Display sampling results over time** box checked in the "Sampling Configuration" dialog box. This is enabled by default.
- Counter monitor under Windows Server 2003 with Power User privileges may not work, saying that: "The performance system on this computer does not work properly; some performance objects can't be initialized. Registry corruption could be a possible reason." In case you see this error, run counter monitor with Administrator privileges.
- To collect data remotely on systems with Windows XP SP 2 with Power User privileges, do the following:
  1. Click the **Start** button and then click **Run....**
  2. In the **Open** field, enter **dcomcnfg**.  
The **Component Services** dialog box opens.
  3. In the **Component Services** dialog box, select **Component Services>Computers>My Computer**.
  4. Right-click and select **Properties**.
  5. In the **My Computer Properties** dialog box, click the **COM Security** tab.



6. In the **Launch and Activation Permissions**, click **Edit Limits....**

The **Launch Permission** dialog box opens.

7. Add your user to the list of users and enable the **Remote Launch** and **Remote Activation** permissions for him.

8. Click **Ok**.

- Pause/Resume APIs do not support multithreaded applications.
- The Windows\* Firewall (initially introduced in Windows\* XP Service Pack 2) may have the following implications on how the VTune analyzer accesses the network:
  - It may block the VTune analyzer from collecting data remotely when the VTune analyzer is installed on a system running Windows with the Windows Firewall enabled;
  - It may block the VTune analyzer from collecting data remotely when its Remote Agent is installed on a system running Windows with the Windows Firewall enabled;
  - It may block the VTune analyzer from finding the license server (for floating licenses) if the license server is located on a system running Windows with Windows Firewall enabled.

To enable the VTune analyzer accessing the network to operate successfully, do the following:

- When being installed, the VTune analyzer detects the presence of the firewall and requests a permission to add a list of executables as exceptions to the firewall settings. Executables in the exception list are not blocked by the firewall. You have an option to restrict the exceptions to addresses on the local sub-net only or enable them for all remote addresses. If you refuse to add exceptions, remote features of the VTune analyzer may not work properly. Your choice of address restriction depends on where the remote system(s) is located on your network.
- When the VTune analyzer's Windows Remote Agent is being installed, a similar request to add exceptions to the firewall is made. You must enable these exceptions if you wish to perform remote data collection on this system.
- When the VTune™ Performance Analyzer Update for Intel XScale® Technology is being installed, a similar request is made to add exceptions to the firewall settings for Microsoft Platform Manager\*. If you refuse to add the exceptions, remote data collection is still possible, but each time a connection to the Remote Agent is made, you may receive a security dialog from the Microsoft Platform Manager asking if the network access should be blocked.

Exceptions may not be added to the firewall during the installation stage under the following circumstances:

- You chose not to allow the installation to add the exceptions;
- The Windows Firewall was not installed at the time VTune analyzer was installed;
- You are installing the VTune analyzer's Remote Agent on Windows Server 2003 SP1, Windows XP 64-Bit Edition Version 2003 SP1 on Itanium architecture-based systems, Windows\* Server 2003 x64, Windows\* XP Professional x64 Edition (tested with Beta build 1218);
- You run remote collection from within the VTune analyzer integrated into the Visual Studio .NET environment.

If the VTune analyzer executables were not added to the firewall exceptions list, you may be prompted with a security dialog asking whether to block certain programs. When this happens, select **Unblock this program** to allow the remote data collection to proceed. Following are the programs that may be blocked:

- When connecting to the VTune analyzer's Remote Agent installed on Linux: VTune™ Performance Environment, ATLBistroController Module, and CGExeCtrl Module;
- When connecting to the VTune analyzer's Remote Agent installed on Windows: VTune Performance Environment and FileCopier Module;
- When connecting to the VTune analyzer's Remote Agent installed on Intel XScale technology-based systems: VTune Performance Environment and Microsoft Platform Manager;
- When collecting data remotely from within the Visual Studio .NET environment there may be an additional dialog to block the Visual Studio .NET.

Following are situations in which exceptions were not added to the firewall, but no security dialogs appear:

- Remote collection will fail without a security dialog prompt if exceptions were not added to the firewall on the system running the Remote Agent.
- If a license server is being used, the VTune analyzer will fail during startup with an error message indicating that it could not connect to the license server if that server is installed on a Windows system with the firewall enabled.

To resolve operational failures or stop security prompts caused by programs missing from the firewall exception list, you can add exceptions manually as follows:

From the **Control Panel**, click **Windows Security Center>Windows Firewall**, select **Exceptions** tab and add the programs listed below as exceptions where:

- <VTuneDir> is the directory where the VTune analyzer is installed;
- <RemoteAgentDir> is the directory where the Remote Agent is installed;
- <VSDotNetDir> is the directory where VS .Net is installed;
- %CommonProgramFiles% is the standard Windows environment variable usually set to "C:\Program Files\Common Files".

When your VTune analyzer license is located on a license server, add the following programs as exceptions on the system running your license server:

- %CommonProgramFiles%\Intel\FLEXIm\INTEL.exe
- %CommonProgramFiles%\Intel\FLEXIm\lmgrd.intel.exe

When collecting remote data, add the following programs as exceptions on the Windows system running the VTune analyzer's Remote Agent:

- <RemoteAgentDir>\Shared\Bin\FileCopier.exe
- <RemoteAgentDir>\Shared\Bin\ComInfo.exe
- <RemoteAgentDir>\Shared\Bin\EnvInfo.exe
- <RemoteAgentDir>\Shared\Bin\StandardExeCtrl.exe
- <RemoteAgentDir>\Analyzer\Bin\tebscollector.exe

When collecting remote data, add the following programs as exceptions on the Windows system running the VTune analyzer:

- <VTuneDir>\Shared\Bin\VTuneEnv.exe
- <VTuneDir>\Shared\Bin\FileCopier.exe

When collecting remote data from a Linux system, add the following programs as exceptions on the Windows system running the VTune analyzer:

- <VTuneDir>\Shared\Bin\VTuneEnv.exe
- <VTuneDir>\Analyzer\Bin\ATLBistroController\_LINUX.exe
- <VTuneDir>\Analyzer\Bin\CGExeCtrl\_LINUX.exe

When collecting remote data from a Intel XScale technology based-system, add the following programs as exceptions on the Windows system running the VTune analyzer:

- <VTuneDir>\Shared\Bin\VTuneEnv.exe
- %CommonProgramFiles%\Microsoft Shared\Windows CE Tools\Platman\bin\cemgr.exe

When collecting remote data using the VTune analyzer integrated within Visual Studio .NET, also add the following programs as exceptions on the Windows system running VS .NET in addition to the exceptions mentioned above:

- <VSDotNetDir>\Common7\IDE\devenv.exe

Make sure these programs have a check mark next to them after being added to the exceptions list.

## Java\* Support

- VTune analyzer 7.2 supports simultaneous viewing of Win32\* and Java\* functions in the same call graph. Supported versions of Java\* environments are detailed in the above table, "[Compiler and Development Environments supported](#)."
- Remote profiling of Java\* applications on Itanium®-based systems on Linux\* has been introduced. It is supported via the standard wizard, using its "Remote" dialog box.

## Microsoft\* .NET Technology Support

- The VTune analyzer plugs into Microsoft\* Visual Studio\* .NET. Sampling and call graph data collection can be directly launched from the Microsoft\* Visual Studio .NET IDE. VTune analyzer 7.2 can also be launched as an independent tool from the IDE.

- The Microsoft file INTDIA80.DLL is beta code and should not be treated as production code. Your use of this file shall terminate upon the availability of the production version of this file from Microsoft. See the accompanying end user license agreement for full license terms and conditions.

## Sampling Data Collection and Analysis of up to 128 CPUs

128-CPU collection is not supported on Windows. However, you can use the VTune analyzer 7.2 to view and analyze samples collected on a 128-CPU Linux system using the Intel® VTune™ Performance Analyzer 3.0 for Linux\*. You may open data collection results in graphical mode using Process, Modules, Hotspot, and Sampling Over Time (SOT) views. The detailed usage model is as follows:

1. Install the VTune analyzer 3.0 for Linux Beta build 620 or later and setup local sampling of up to 128 processors on the desired Linux machine.
2. Perform a local sampling session. An optional CPU masking switch can be specified to limit collection to a subset of CPUs available on the system. For example, the following vtl command line can be used for sampling CPUs 1, 4 and CPUs 20 to 25:  
`vtl activity -c sampling -o "-cpu-mask 1,4,20-25"`
3. Open the sampling collection results using the command line viewer (vtl). For example:  
`vtl view -modules -cpu 1,4`
4. To visualize the sampling data using VTune analyzer GUI viewers on Windows, follow the steps below:
  - a. Install VTune analyzer 7.2 on a Windows machine.
  - b. Copy the .tb5 file collected in step (2) to the Windows machine.
  - c. Start VTune analyzer GUI and select menu option **File->Open File** to open the copied .tb5 file.
  - d. View the sampling data in Process/Modules/Hotspots views.
  - e. Click on the hourglass icon to invoke Sampling Over Time (SOT) Views for the desired processes/modules.

**NOTE:** Collecting sampling data on systems with a large number of processors generates a significant amount of data. To reduce the

amount of data captured, use CPU masking. This feature enables you to limit data collection to the processors of interest.

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## Known Limitations

This section details known limitations in the following categories, [General](#), [Collecting Performance Data in Batch Mode](#), [Sampling](#), [Windows\\* Remote Sampling](#), [Linux\\* Remote Sampling](#), [Windows\\* CE Remote Sampling](#) on Intel XScale® technology-based systems, [Call Graph on Windows\\*](#), [Linux\\* Remote Call Graph](#), [Command-line Interface](#), [Counter Monitor](#), [Static Analysis](#), [Microsoft\\* .NET Technology](#), [Java\\*](#), and [Tuning Assistant](#).

### General

- You cannot view results of an Activity if you move a project manually. Use **File > Pack and Go** to properly pack and move the files.
- Projects packed with versions of VTune analyzer prior to version 6.1 cannot be unpacked with the current version. [\[SCR #7736\]](#)
- You cannot create projects in the **%WINDIR%\System32** directory on systems using Itanium® processors. [\[SCR #11705\]](#)
- Function splitting can cause inaccurate results in the sampling view, call graph, or from the Tuning Assistant. A detailed description of this issue follows: [\[SCR #12424\]](#) [\[SCR #12427\]](#)
  - A function is split when it has multiple non-contiguous relative virtual address (RVA) ranges. A compiler can generate split functions for a variety of reasons, usually when doing optimizations or for exception handling in C++. For example, when using the Intel® C/C++ compiler 5.0 and 6.0, using the options `Qprof_use` or `Qprof_gen` (associated with profile guided optimization) will often create split functions. Also, as explained above, some exception handling routines in C++ may create split function as well, even without using the compiler profile guided optimization options. The user can, however, tell the Intel® C/C++ compiler not to create split functions by using the `Qfnsplit-` option.
  - Split functions impact the following three features in the Intel® VTune analyzer 7.2: Intel® Tuning Assistant, sampling view and call graph. The Tuning Assistant is only impacted when the user asks for advice at the hotspot or source level. In this case, the advice generated by the Tuning Assistant for split functions may either be non-existent or partial. This behavior exists for split

functions that were created by either the Intel® C/C++ Compiler or the Microsoft\* Visual C/C++\* Compiler.

- When split functions occur from using the Intel® C/C++ Compiler, the sampling view feature is impacted. Parts of a symbol are considered as separate symbols. So, in a sampling view there might be a few records for one symbol. The data itself is valid as a sum of all parts.
- When split functions occur from using the Intel® C/C++ Compiler, the call graph feature is significantly impacted. Intel does not guarantee that the call graph data is correct.

**NOTE:** When using the Intel® C/C++ compiler Qipo option, symbol information is lost. VTune analyzer features that require symbol information may not work.

- An extremely long delay can occur (creating the impression of a software hang) when opening views containing a large number of entries. Extremely slow response has been reported *when a view contains tens of thousands of entries*. In one case, a *drill down view* containing 87,000 entries took over 30 minutes to appear. This is more likely to occur when viewing (sampling) Hotspots by RVA or by Functions, especially when a lot of samples with unique addresses were collected, or when viewing call graph results of a very large module (for example, 250MB module size and symbols). [\[SCR #12377\]](#) [\[SCR #13943\]](#) [\[SCR #13987\]](#)

## On systems using Itanium® processors:

- When running an Activity with the sampling or counter monitor data collector that launches an application and has the **Terminate Application when Activity ends** setting unchecked (a setting which may be accessed via the data collector's configuration pages), if the application is not stopped manually before the Activity finishes running, some processes associated with the VTune analyzer will not terminate after exiting the VTune analyzer. These processes may be safely terminated using the Windows\* Task Manager. The following process names may show up in the Task Manager and should be terminated: **FILE~1.exe**, **FILESV~1.exe**, **STANDA~1.exe**, **vtunecca.exe**, and **VTuneEnv.exe**.
- On certain builds of the Windows\* Server 2003 (for example, Service Pack 1 v. 1184), there may be general instabilities after uninstalling and reinstalling the VTune analyzer. To overcome this issue, install the latest Windows\* version (for example, Service Pack 1 v. 1218) [\[SCR#21782\]](#).
- In several previous releases of the VTune analyzer (6.1, 7.0, 7.1), sampling 32-bit Java Virtual Machines or 32-bit .NET execution on

Itanium® processors was possible. In this release, it is impossible to profile 32-bit Java or .NET on Itanium®-based systems.

### **On systems using Itanium® processors running the Remote Agent to a Linux\* machine:**

When using VTune analyzer to monitor the performance of an application running on a remote Linux\* machine, such as `/bin/ls`, invoking a second instance of the application causes the VTune analyzer to hang. This is a known issue and we are working on a solution. [\[SCR #15439\]](#)

### **On systems using Pentium® 4 processors:**

When monitoring the event "Streaming SIMD Extensions Input Assists (TI)," note that not all requests for assists are actually taken. This event is known to *overcount*. It counts requests for assists from instructions on the non-retired path that do not incur a performance penalty.

### **On systems using Intel® processors with Intel® Extended Memory 64 Technology (Intel® EM64T) with 64-bit operating systems installed:**

- On certain builds of the Windows\* Server 2003 or Windows\* XP x64 Edition Version 2003 (for example, Service Pack 1 v. 1184), there may be general instabilities after uninstalling and reinstalling the VTune analyzer. To overcome this issue, install the latest Windows\* version (for example, Service Pack 1 v. 1218) [\[SCR#20463\]](#).
- 32-bit `sys_call_table` hooking does not fully work on 64-bit Linux operating systems running on Intel® processors with Intel® EM64T. You may find that some 32-bit applications do not appear under Module View when the applications are launched by `vtserver`. Samples from such applications will get assigned to the "Other" category. If this is the case, launch your application manually before starting sampling collection. [\[SCR#18765\]](#)
- VTune analyzer does not remove its paths after every uninstall as a result the user will potentially run out of environment variable space after install/uninstall. [\[SCR#18860\]](#)

## **Collecting Performance Data in Batch Mode**

When using an OLE Automation script (Visual Basic or Perl) to run an Activity comprising sampling and counter monitor collectors, some processes associated with the VTune analyzer will not terminate after the script exits. These processes may be safely terminated after the script finishes its work using the Task Manager. The following process names may show up in the



Task Manager and should be terminated: **VTuneEnv.exe**, **vtunecca.exe**.  
[SCR #13990]

## Sampling

### Windows\* Sampling:

- The VTune analyzer can only run one sampling session at a time. Attempting to run multiple instances of the analyzer with multiple sampling sessions results in a warning being displayed. Use the **Advanced Activity Configuration** option to choose multiple sampling counters instead.
- You cannot view sampling data in an Activity result containing more than 64 runs. To view data from a series of events that normally generate more than 64 runs, split sampling data collection into multiple Activities, making sure each Activity generates 64 runs or less. The **Events** tab on the "Configure Sampling" dialog box (**Configure > Modify <Activity> Collector...**) displays the number of sampling runs that will be generated by the selected events.  
[SCR #17086]
- Sampling Over Time views display wall clock time on the time axis relative to the wall clock time at the start of the sampling session. The wall clock values are computed from the processor timestamp counter recorded with every sample collected. On processors with Intel SpeedStep® Technology, the timestamp to wall-clock conversion will not be accurate if the processor changes frequency during a sampling session. This will result in an incorrect time-axis. However, the sample distribution shown in the view will still be in order and can still be useful for analyzing the performance changes over time. You can prevent the processor from changing frequencies in Microsoft\* Windows\* by changing the OS power settings to **Always On**.
- The Sampling Over Time views can only show sampling data for a single run. If you invoke the Sampling Over Time view from sampling results comprised of multiple runs, the view will only show the data for events collected in the first run.
- Sampling Over Time views are not supported for Hotspots data.
- On Pentium III and Pentium M processor-based systems, if you create a default Activity with the sampling wizard, run the Activity, then modify the Activity by removing the default events, and add an event that requires calibration, calibration will not work on the next run. However, it will work on all subsequent runs. [SCR #20892]

### Windows\* Remote Sampling:

- Launching VTune analyzer GUI clients on two *controlling* systems and attempting to perform remote sampling on one system simultaneously may result in a crash. [SCR #10322]
- Microsoft\* Windows XP Professional x64 Edition is not supported as the *Remote Agent* system. [SCR #21379]

## Linux\* Remote Sampling:

- Remote sampling is only supported on Linux\* 2.4 kernels. The pre-built sampling drivers for IA-32 RedHat\* Linux kernels are compiled for kernels with hardware type “i686” (e.g., kernel-\*-2.4.xyz.i686.rpm). You can check which hardware your kernel is built for by typing the command “`uname -m`”. If your kernel is built for a hardware type different than “i686”, then the pre-built sampling driver may fail to operate. To fix this problem, build the sampling driver manually for your kernel by following the instructions in `/opt/intel/vtune/vdk/src/README`.
- Thread View for sampling data is not supported on Linux\*.
- The VTune analyzer cannot profile 32-bit applications running on a Linux\* system with an Itanium® processor. [SCR #10040]
- To get tuning advice for function-level code regions for a remote sampling collection on Linux\*, the user must drill down from the module view to the HotSpot view while still connected to the remote machine. The VTune analyzer will copy over the required binary files. If these files contain the desired symbol information, the next time the Tuning Assistant is invoked on a corresponding module, the advice report will contain insights or advice for function-level code regions.
- There is a known issue with RDC sampling on pthreaded applications running on Red Hat\* Fedora\* Core 1. If a pthreaded application fails to run properly when launched through vtserver, try to manually launch the app instead. For further information on issues regarding running pthreaded applications under Red Hat\* Fedora\* Core 1, please refer to the NPTL release notes at <http://fedora.redhat.com/docs/release-notes/>. [SCR #17723]
- In certain cases some events may occur more frequently during sampling than in calibration. This can result in very large data files. [SCR #20782]
- On some mobile processors under RedHat 9 or SuSE 9.0, remote Linux sampling may fail when launching certain applications and sampling on the 'Mispredicted Return Branch Instructions Executed (Mispredicted at execution)' event. If this happens, try sampling using a different event. [SCR #21586]

- If the remote Linux\* application to launch is a command-line program that expects user input from standard input (stdin), then that application may not be directly launched by **vtserver**. The following alternatives are recommended:

- a. Run the command-line program manually on the Linux\* system (not launched through **vtserver**).
- b. If the Linux\* system is running X Windows\*, and **vtserver** has access to *\$DISPLAY*, then the command-line program can be launched indirectly through an **xterm**. In the "Application/Module Profile Configuration" dialog box, specify the remote application to launch as follows:

Filename: `/usr/bin/X11/xterm`

Command line arguments: `-e /path/to/command -line/program arg1 arg2...`

See the man pages on **xterm** for further details.

## Windows\* CE/Linux Remote Sampling on Intel XScale® Technology-based systems:

- Java\* Profiling and .NET profiling are not supported.
- Launching more than one application on the Remote Agent system is not supported.
- The option to selectively calibrate events is not supported.
- Tracking thread creation is not supported.
- Event Ratios are not supported.
- The Intel® Tuning Assistant advice is not available. Disabling the **Automatically generate tuning advice** option in the Sampling Wizard is suggested.
- Module Buffer Size is not adjustable for Integrated Remote Data Collection.
- Time used for WaitForImageLoad and StartDelay is calculated as a part of Sample duration in Integrated Remote Data Collection, while it is excluded from Sample duration in Standalone Remote Data Collection and Target Local Data Collection.
- Integrated Remote Data Collection (IRDC) for MontaVista\* Linux\* CEE 3.0 is not supported
- Sampling Over Time view is supported by a post processing tool (ConverSOT.exe) that converts the Intel XScale® Technology TB5 file (xxx.tb5) with TBS information into a .tb5 file (xxx\_SOT.tb5) with Sampling Over Time time stamp information that can be viewed in VTune analyzer Sampling Over Time view.

See the *VTune™ Performance Analyzer Update for Intel XScale® Technology Release Notes* for more details.

## Call Graph

### Call Graph on Windows\*:

- Call graph support is based on binary instrumentation. There can be several reasons why a function may not be instrumented:
  - There is no symbol to the function in the binary.
  - When the optimizing compiler uses jump to call to another function (instead of a call instruction), or the same function has multiple entry points. In this case, the two functions are treated as one, and only one of the entry points will be instrumented.
  - The first basic block of a function is smaller than 5 bytes.
  - For 64-bit operating systems running on Intel® processors with Intel® EM64T, the module does not have enough free space to insert instrumentation code.
- Call graph Activities created in VTune analyzer 6.1 cannot be re-run using VTune analyzer 7.2. These results can be opened and analyzed successfully, but to run them, a new Activity needs to be created.
- The Function Selection behavior for static methods in two source files with the same method name, return type, and arguments list, is unpredictable. If selected in the GUI, the methods might be unselected from instrumentation, and if selected from instrumentation, they might be unselected in the GUI. If unselected in GUI, the methods might be eventually instrumented. [SCR #7792]
- You cannot profile screen savers (\*.scr) on Microsoft\* Windows\* with call graph. [SCR #13858]
- Profiling binaries with coff format debug info is not recommended. This type of binary is produced by using the **/debugtype:coff** linker option. The debug information might not be accurate and the instrumented application might crash during run-time. [SCR #14226] [SCR #14238] [SCR #14242]
- When profiling a Windows\* Service executable, launch the application outside of VTune analyzer mode (no-application-to-launch or external launcher). Be sure to set the service Log-On property to use the account of the user that does the profiling.
- To profile out-of-process COM servers or executables launched by Visual Test or a similar testing suite with call graph, select no-application-to-launch or some other launch application (remove the launcher from the modules of interest) and select **Yes** in the "Force

Instrumentation" column for the profiled executable (in the "Call graph Activity Configuration" dialog box).

- When using no-application-to-launch mode or external launcher mode, instrumentation of system executables may not work, depending on operating system and version used. The reason is that the operating system detects changes in system executables, and restores the original executable if someone changes it.

- Call graph profiling does not support COM methods profiling on systems using Itanium® or Intel® processors with Intel® EM64T with 64-bit operating systems installed.

- If a native function is called from managed code, all its native callees will appear as callees of the original managed function.

[SCR #14743]

- Fibers and COM activities are not supported when profiling a DLL in stand-alone-dll mode (meaning: only dll modules in the modules of interest list).

- When running a call graph where there are copies of the same Microsoft\* DLLs in both the execution and **%WINDIR%\System32** directories, an error may occur. To prevent this error from happening, delete all copies of Microsoft\* DLLs in the execution directory so the **%WINDIR%\System32** ones are used instead. This issue is relevant only when profiling 32-bit applications on systems running Itanium® processors. [SCR #11173]

- In order to profile ISAPI extension you need to ensure that original non-instrumented extension is unloaded before the beginning and VTune analyzer-generated instrumented extension is unloaded after the end. The recommended sequence is following: 1. Open Command Line Windows and run 'iisreset' command in order to restart IIS server and unload all loaded extensions. 2. Run VTune analyzer and create call graph project with no application to launch and all extension DLLs as modules of interest. Run the project. 3. Run your benchmark. 4. After benchmark has finished open Command Line Windows and run 'iisreset' command in order to restart IIS server and unload all loaded extensions. 5. Press "Stop" button in VTune analyzer to stop profiling and view gathered profile data.

- Call graph data collection is not yet supported using the Windows\* command-line interface of the VTune analyzer. Use the VTune analyzer GUI for call graph data collection instead.

- Profiling of IA-32 applications on 64-bit operating systems running on Intel® processors with Intel® EM64T is not supported.

- Profiling in dll-level mode using 64-bit operating systems running on Intel® processors with Intel® EM64T is not supported.

- Profiling applications with modified Windows compatibility mode is not supported. [SCR #20704]

## Linux\* Remote Call Graph:

- The following types of Linux\* binaries are not supported:
  - Static Linux\* applications that have no symbols
  - The Linux\* kernel and any kernel modules
  - The Linux\* loader (**/lib/ld-Linux\*.so\***)
- There are two available options for launching the application: direct execution, and by using a launcher script. When creating an Activity for an application launched from a script specify the actual application as a module of interest. Also, please note the following:
  - Prior to running the VTune analyzer's remote agent, the LD\_LIBRARY\_PATH must match its value when the application is launched from the script. Otherwise, the remote agent may not find the dependent libraries of the application. You may need to add all relevant libraries to the path if they are not currently listed there.
  - To enable **vtserver** to catch the execution of the application and to use the instrumented application, the application executable is temporarily renamed. Therefore, when you run VTune analyzer's remote agent you must verify the following:
    - You have write permission in the directory of the application executable and the executable file itself.
    - The directory is not tagged as "sticky" (the "t" bit is not set). For example, a /tmp directory is tagged as "sticky". If the user running the **vtserver** is the owner this restriction is not applicable. [SCR #20632]
  - Before the application of interest is called by the launching script, the application is renamed back to its original name. If **vtserver** is terminated abnormally or seemed to hang before the application was called, you need to restore the environment manually. (The original application is stored at the same directory with the **\_\_bistro\_orig** suffix.)
- If you use Red Hat\* 9.0 with nosysinfo as a boot parameter (that disables the NPTL threading mechanism), Call graph profiling may generate false results. To overcome this issue, set the following environment variable before running the VTune analyzer's remote agent: LD\_ASSUME\_KERNEL=2.4.1.
- Remote call graph (from Windows\* to Linux\*) uses TCP/IP communication over ports 50000 and 50001. A firewall between the

two machines will probably block communication. Currently there are two workarounds for this issue:

- Contact the firewall administrator and have communication on ports 50000 and 50001 turned on.
- Make sure there is no firewall between the machines.

[SCR #16914]

- When an instrumented application calls the `exec` system call, the whole image context is replaced with the new image. If the application calls to `exec` with original name of the instrumented image, then the instrumented image will be used. In the other cases, the original (non-instrumented) image is called, and no results will be generated from this point in the run.
- Linux\* call graph does not support `setuid` images. The `setuid` mechanism is used to give a user process the effective user ID of another user, usually root. You can use call graph and run the `setuid` executable only if you are logged in as the same user as the owner of the `setuid` executable.
- Call graph results are written during the regular termination procedure of the process. This means that if the process did not terminate properly, no call graph results will be generated. There are a few reasons why an application may not terminate properly:
  - There was some type of crash (like an access violation) during the termination procedure.
  - The application terminated because a termination signal was caught by the application.

To generate call graph results in the above three cases, you need to cause a proper termination before it is improperly terminated by itself. There are two ways to perform a proper termination:

- Press the **Stop** button in the GUI.
- In the Linux\* machine you can send a special signal to the instrumented application. The number of the signal should be in the `_Bistro_Exit_Signal_` environment variable, or the `SIGUSR2`, by default.
- Call graph implements the same search algorithm as the standard loader for locating executables and shared objects. Therefore, if you use a private version of the loader with a different search algorithm, call graph may not find the required files.
- Call graph supports dynamically loaded images loaded with `dlopen` (from `libdl`). There is no support to images loaded directly with the `mmap` system call.



- VTune analyzer may hang if a non-existing module of interest was specified when creating a call graph Activity. [\[SCR #19801\]](#)
- The call graph run creates Unix\* pipes and uses file locking on the Linux\* file system. Therefore the Linux\* file system on which the cache directory resides must support these operations. Intel recommends using a local disk for the call graph cache directory on the Linux\* system.
- The NFS **automount** utility (also known as the **amd**) may unmount directories specified in the call graph collection but not used continuously during the run. This may cause unexpected behavior and the VTune analyzer may fail to run or generate results. Therefore, Intel does not recommend the use of automounted directories. If your Linux\* system uses automounted directories, turn off automount and manually mount any necessary directories *before* running a call graph session.
- Call graph results from Linux\* side are collected and stored in memory on the Windows\* side. In some cases, the required memory may exceed the available physical memory. To limit the amount of memory used during the run, select **Configure > Options > Call Graph** and change the memory setting in the dialog box. In this version, the maximum call graph results size is limited to about 800Mb. Set the system virtual memory size as large as possible.
- Statically linked executables are not fully supported. You may see problems, especially when C++ exception handling is used. To avoid this problem, dynamically link your application for call graph profiling.
- The call graph information of an application is kept in memory during the run. The buffer size is set by default to 128MB unless your system has less than 256MB - then it will be half of the physical memory. Setting other value to the buffer size can be done using **Configure > Options > Call Graph > Collector** property page.
- Call graph does not support applications that use two different shared objects with the same name, even if they are located in different directories. This may cause an abnormal termination of the VTune analyzer. [\[SCR #14986\]](#)
- Call graph supports the POSIX\* threading methodology (either NPTL or linuxthreads). If your application uses the clone system call directly, it is bypassing POSIX\* threads. All non-POSIX\* multithreading environments (like quick threads) and direct use of clone system calls are not supported. [\[SCR #13552\]](#)
- If you packed an Activity result of the call graph data collection and try to unpack and run it on another controlling system, be sure you re-launched **vtserver** on a Remote Agent system. Otherwise, the error can occur on the controlling system. [\[SCR #21236\]](#)



- Call graph measures Wait Time values using a heuristic model rather than absolute calculations. Because of this, Wait Time values should be considered as approximations only, not as quantitative results. [\[SCR #14526\]](#)

## Command-line Interface

- When using any of the VTune analyzer commands, the total length of any pathname and filename combination cannot exceed 250 characters due to a limitation in the database. [\[SCR #15423\]](#)
- VTL global option `symbol_search_dirs` does not work on systems using Itanium® processors and Intel® processors with Intel® EM64T running a 64-bit operating system. [\[SCR #20983\]](#)

## Counter Monitor

Running an application with a duration of less than one (1) second with Run-time View enabled may cause VTune analyzer to become unstable. This can appear in a Run-time View continuing data collection where the **Stop** button is disabled, the **Run** button is enabled, but new counter values are still appearing in the chart regularly. This should not prevent new Activities from starting, regardless of whether the *running* run-time window has been closed or not. To prevent this odd behavior, disable Run-time View for such short application runs. [\[SCR #11701\]](#)

Several [Usage Notes](#) also apply to counter monitor.

## Static Analysis

- Static analysis is not yet available for Itanium® 2 processors. [\[SCR #12400\]](#)
- You may see mismatches between functions and source files in Static Module View for binaries containing Microsoft® .NET Common Language Runtime functions. [\[SCR #11650\]](#)
- In the Source View static analysis, the Activity Result displayed does not affect the default processor in the "Change Processor" context menu. The default processor is set as the host processor type. If the module is for a different processor architecture than that of the host, the default processor is set as the latest processor in the architecture family. [\[SCR #14267\]](#) [\[SCR #12407\]](#)

## Microsoft® .NET Technology

- Source-level Tuning Advice of C#, Managed C++, or Visual Basic® .NET programs (`.cs` extension) is not supported.

- Additional issues with .NET profiling and their solutions can be found in the [MRTE\\_faq.htm](#) document.

Several [Usage Notes](#) (above) also apply to Microsoft .NET Technology.

## Java\*

All issues with Java\* profiling and their solutions can be found in the [MRTE\\_faq.htm](#) document.

Several [Usage Notes](#) (above) also apply to Java.

## Tuning Assistant

- The Tuning Assistant only supports tuning advice for the following processors:
  - Intel® Pentium® III processor
  - Intel® Pentium® 4 processor
  - Intel® Pentium® M processor
  - Intel® Itanium® 2 processor
- The Tuning Assistant may report errors related to source-based advice generation when invoked from Source View when the source code uses advanced features of Microsoft\* Visual C++\* .NET. To work around this problem, disable source-based advice in the **Intel® Tuning Assistant / Source Information** section of the "Options" (**Configure > Options**) dialog box.
- If the Tuning Assistant is comparing two different binaries in the HotSpot or Source View, the Tuning Assistant may generate an incorrect error message indicating that there is no symbol information for Reference 1 system. The Tuning Assistant will continue generating invalid messages, or none at all. The error message should say, "A valid comparison cannot be made because the RVA values selected in these views will not correlate to the same functions in the two different binaries." To avoid this problem, only request advice from the Process or Module Views when comparing two different binaries.
- MOB Replays Retired may not report correct data in precise mode. Precise mode is enabled by default for this event. To disable precise mode, add it to the "Select Events" list and uncheck the **Precise Event** checkbox. Then simply double-click the event.
- Occasionally, when "Automatically generate tuning advice" is selected in the sampling wizard, after sampling data collection finishes, the Tuning Assistant may report "No Sampling data for the selected context." When automatically generating tuning advice, the "Analyze the current selection" option is selected by default in the "Tuning Assistant

Options for Sampling" dialog. This causes the Tuning Assistant to try to analyze samples that were collected in the process that was selected in "Application to launch" (in the Sampling Wizard) and in modules that were selected in the "modules of interest" list (in the Sampling Wizard). If this combination of process and modules did not receive any samples, the "No Sampling data for the selected context" error message will be generated. (For example: this may occur when the "Application to launch" is a script that invokes the actual application containing the modules of interest). In this case, after sampling data is collected, select the processes and/or modules for which you would like advice, then manually invoke the Tuning Assistant (by pressing F8 or selecting "Get Tuning Advice" from the View menu).

- After zooming in to a specified time range in Sampling Over Time View, switching to Classic Sampling View, and invoking the Tuning Assistant, the resulting Tuning Assistant report is for the entire workload time range, not the specified zoom-in time range.
- Getting tuning advice for imported results is not supported [SCR #17452]

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## Documentation

The documentation for the VTune analyzer for Windows\* is presented in several different formats: the online Getting Started Tutorial, online help, Rich Text Format (RTF) documents, Portable Document Format (PDF) versions of manuals and HTML documentation.

## Getting Started Tutorial

The Getting Started Tutorial shows you how to get started using the VTune analyzer to help you optimize your application's performance. After taking this tutorial, you should be able to:

- Understand the basic concepts and terminology.
- Start using the VTune analyzer to analyze your application's performance.

To access the tutorial, click the **Start** button and from **Programs** (or **All Programs** in Windows\* XP), select **Intel(R) VTune(TM) Performance Analyzer > Getting Started Tutorial**.

To view the tutorial, use Netscape\* Communicator 4.x, Netscape 6.2 or higher, or Microsoft\* Internet Explorer 4 or higher. If using Mozilla\*, certain pop-ups may not work.

## Online Help

Complete information on using the VTune analyzer is contained in the VTune analyzer online help. This help is in HTML Help 1 format and can be viewed in an HTML Help viewer. When the VTune analyzer is integrated in the Visual Studio .NET environment, a small Help 2 module titled *VTune™ Performance Tools* is available from the Visual Studio .NET Help collection. This module covers key VTune analyzer concepts and has links to topics in the main online help in the HTML Help 1 format.

Access the online help from the **Help** menu, or access the context-sensitive help in one of the following ways:

- Right-click an item in a dialog box and select **What's This?**
- Hit the **F1** key to display the overview help topic corresponding to the active VTune analyzer window. From the overview help topic, you can navigate to related help topics.

**NOTE:** If the Microsoft\* Internet Explorer cumulative security patch has been installed on your system, you may not be able to view or use certain shortcuts such as *alink* buttons in the online help system. To resolve this problem, read the Microsoft\* Knowledge Base article [822989](#) and install the necessary updates.

## RTF and PDF Documentation

The VTune analyzer for Windows\* RTF documentation consists of the End User License Agreements (EULA) for the VTune analyzer and for the VTune Performance Analyzer Update for Intel XScale® technology. For best results please use Adobe\* Reader\* 6.0 to view PDF documentation. The PDF documentation consists of the following:

- [Using the VTune™ Performance Analyzer's Remote Agent](#)
- [Intel® Itanium® Processor Reference Manual for Software Development](#)
- [Intel® Itanium® Processor Reference Manual for Software Optimization](#)
- [Intel® Itanium® 2 Processor Reference Manual for Software Development and Optimization](#)
- [Introduction to Microarchitectural Optimization for Itanium® 2 Processors](#)

## HTML Documentation

The VTune analyzer for Windows\* HTML documentation consists of these Release Notes, the Release Notes for the VTune™ Performance Analyzer Update for Intel XScale® Technology, installation instructions for the VTune™ Performance Analyzer 7.2 Linux\* Remote Agent, and the VTune analyzer [Online Help](#).

### Viewing HTML documents:

The HTML documents included on the product CD-ROM can be viewed using any browser, although a browser that supports HTML 4.0 is recommended. Older versions of browsers (especially Netscape\* and Konqueror\*) may not display some of the HTML documents correctly.

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## Technical Support and Feedback

### Register with Intel(R) Premier Support

To receive technical support for the tools provided in this product and technical information including FAQs and product updates, register for an Intel® Premier Support account on our secure web site, <https://premier.intel.com>, if you have not already registered. Click on [Obtaining Technical Support](#) **on that site** to start the registration.

**NOTE:** Registering for support varies for release product or pre-release products (alpha, beta, etc.) and only released products have support web pages on <http://support.intel.com>.

To register for an account, visit the Intel® Registration Center web site at <http://www.intel.com/software/products/registrationcenter/>

If you have forgotten your password, please email a request to: [quadsupport@mailbox.intel.com](mailto:quadsupport@mailbox.intel.com). Do not email technical issues to this email address — it is not secure.

## Self-Help and User Forums

Intel provides a rich repository of online self-help product information, such as tutorials, getting started tips, known product issues, product errata, compatibility information and answers to frequently asked questions.

### Accessing Intel® Software Development Products technical support:

The Intel® Software Development Products: Technical Support Web site is a wealth of information.

<http://www.intel.com/software/products/support/>

It's a great place to find answers quickly and to gain additional insight in using our products effectively.

## Accessing VTune™ Performance Analyzer product support:

The VTune analyzer product support web site provides access to technical issues, frequently asked questions, product documentation and product errata.

<http://support.intel.com/support/performance/vtune/>

## Accessing the VTune™ Performance Analyzer development forum:

Users of the VTune analyzer software are invited to participate in open forum discussions regarding this and other VTune analyzer software, ranging from non-technical to highly technical in nature, at the Intel® Developer Services Forums.

<http://softwareforums.intel.com/ids>

The forums are moderated, but all discussions regarding VTune analyzer experiences are invited, including functionality, usability, bug workarounds and general usage.

## Submitting Issues

Your feedback is important to us. To submit an issue via the Intel® Premier Support web site:

1. Go to <https://premier.intel.com>. Java\* and Javascript\* must be enabled in your web browser to submit an issue.
2. Type in your Login and Password.
3. Click the **Submit** button.
4. Read the Confidentiality Statement and click the **I Accept** button.
5. Click on the **Submit Issue** link in the left navigation bar.
6. Choose **Initiatives, technologies & tools** from the **Product Type** drop-down list.
7. Choose **VTune™ Performance Analyzer** from the **Product Name** drop-down list and specify **7.2** as the version in the appropriate field.
8. Enter your question and complete the fields in the windows that follow to successfully submit the issue.

- a. Describe the problem or enter your suggestion. For problem reports, be as specific as possible, so that we may reproduce the problem. For compiler problem reports, include the compiler options and a small test case, if possible.
- b. Describe your system's configuration information. Be sure to include information applicable to your setup: the operating system name, version and build number, the name and version number of installed applications, and anything other information that will help us to address your concern(s).

A technical support engineer will respond within one (1) Intel business day.

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## Additional Information

### Related Products and Services

Information on optimizing applications on Intel® Itanium® and Intel® Itanium® 2 processor-based systems is available in the following documents:

- [Intel® Itanium® Processor Reference Manual for Software Development](#)
- [Intel® Itanium® Processor Reference Manual for Software Optimization](#)
- [Intel® Itanium® 2 Processor Reference Manual for Software Development and Optimization](#)
- [Introduction to Microarchitectural Optimization for Itanium® 2 Processors](#)

Information on Intel® software development products is available at <http://www.intel.com/software/products>. Visit the following product-related sites for additional information:

- The [Intel® Software College](#) provides interactive tutorials, documentation, and code samples that teach Intel® architecture and software optimization techniques.
- The [Intel® C++ Compiler](#) and [Intel® Fortran Compiler](#) enable software to run at top speeds and fully support the latest Intel® IA-32 and Itanium® processors.
- The [Intel® Performance Library Suite](#) provides a set of routines optimized for various Intel® processors. It is not part of this product.
- The [Intel® Math Kernel Library](#) provides developers of scientific and engineering software with a set of linear algebra, fast Fourier

transforms and vector math functions optimized for the latest Intel® Pentium® and Intel® Itanium® processors.

- The [Intel® Integrated Performance Primitives](#) consists of cross platform tools to build high-performance software for several Intel® architectures and several operating systems.

When using Find in Microsoft\* Internet Explorer\* to view the release notes, Internet Explorer\* may stop responding (hang).

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